

Answers to Frequently Asked Questions When Evaluating Rabies Exposure

When can rabies be transmitted without a bite?

Human nonbite exposure occurs when saliva or brain tissue (including cerebrospinal fluid) from an animal comes in contact with the broken skin or mucous membrane of a person. Broken skin is defined as skin that has bled or had serous discharge within 24 hours prior to the exposure. The risk from nonbite exposure is very small. Documented transmission of rabies to humans by nonbite exposure has occurred in only a few cases: six patients who received corneal transplants from donors who died of unrecognized rabies and two who inhaled concentrated aerosol in laboratories. Two more cases documented as nonbite exposures were through either inhalation of, or nonintact skin exposure to, aerosolized virus in bat caves.

Other body fluids, such as stool, blood, urine, and skunk spray, do not contain virus and are noninfectious. Likewise, direct contact of saliva or brain tissue with intact skin, including a wound with a well-formed scab, does not present a risk of exposure. Contact with dried saliva or brain tissue does not constitute exposure.

Because the bites of bats may be inapparent, an exposure to a bat where a bite cannot be ruled out is considered a possible exposure to rabies.

Which animals can transmit rabies in Texas?

In Texas, high risk species include coyotes, foxes, skunks, bats, and raccoons. In addition, carnivorous mammals, such as bobcats, should be considered higher risks for transmitting rabies than other mammals.

Intermediate risk animals include domestic cats and dogs, and most other mammals.

Low risk animals include lagomorphs (rabbits and hares), rodents, opossums, and armadillos. Exposure to these animals does not require PEP unless the animal's behavior is very suspicious for rabies.

Where in Texas is rabies now occurring in animals?

Bats and skunks throughout the state may have rabies. Cases of rabies in feral cats are also reported throughout the state. There are two rabies epizootics in Texas, each involving a different strain of canine rabies virus. Rabies in dogs and coyotes is occurring just south of a line extending from Eagle Pass through San Antonio to Corpus Christi. Another strain of canine rabies is circulating among gray foxes in a wide area of central Texas, west of Austin and extending to the north of Abilene. Some spillover into other animals such as dogs, cats, raccoons and livestock is occurring in this area.

Although the two rabies epizootics remain somewhat species specific, there is always a possibility of spillover into other species in the affected areas. For example, in areas where fox rabies activity is high, fox rabies in goats and raccoons is relatively common.

How effective is the rabies immunization of animals?

Although occasional vaccine failures occur, rabies vaccines administered to pets and livestock are very effective. No approved rabies vaccine for wild animals or hybrids of domestic animals with wild animals is available. Dogs and cats should be considered not currently vaccinated if documentation of vaccination within the previous 12 months is not available or if the initial immunization was given less than 30 days previously.

What is the significance of provoked versus unprovoked animal attacks?

Unprovoked attacks are much more likely to involve rabid animals than provoked attacks. Attempts to feed a wild or domestic animal should be considered provocative if an attack occurs.

What are the signs of rabies in an animal?

Aggressiveness in a normally friendly pet or withdrawal in a normally aggressive pet may be a sign of rabies. A wild animal which approaches a human or a usually nocturnal animal (such as a bat, skunk, raccoon, bobcat, or fox) which is seen in the day should be considered rabid.

Rabies should be strongly considered if the animal has rabies-compatible clinical

signs. Clinical signs of rabies in animals can vary by species. Livestock tend to become withdrawn, anorexic, and inactive. Carnivores are often aggressive and exhibit signs of encephalitis, such as hind leg paralysis and incoordination. Dogs are likely to have a peculiar, high-pitched bark. Rabies should be considered when any unexplained paralysis or change in behavior occurs.

If the animal is available, should testing or observation be used?

A 10-day observation period for cats or dogs that bite a human is appropriate unless the local epidemiology or the immunization status and clinical/behavioral picture of the animal is suggestive of rabies, in which case it should be sacrificed and tested for rabies and the exposed person begun on PEP immediately. If a dog or cat was capable of transmitting rabies at the time of the biting incident, it will inevitably develop signs of rabies within a few days and die within 10 days.

Current research data on the preclinical infectious phase of rabies in species other than dogs and cats is not adequate for the determination of a reliable observation period. Therefore, depending on observation alone to rule out rabies in any of these other species is not appropriate. If such an animal is suspected of being rabid, it should be sacrificed immediately and tested for rabies.

If the animal is not available for observation or testing, what factors should be considered in determining the need for PEP?

If the animal is not available for testing (decomposed or escaped), the decision-making process is more difficult. One must depend more on behavioral and epidemiologic considerations. In general, bites by cats or dogs that are not available for observation and by high risk animals that are not available for testing should be considered rabies exposures anywhere in the state.

How does the location of a bite exposure affect PEP?

Rabies resulting from bites on the head or shoulders has a shorter incubation period than from bites on the hands, torso, or legs. In most cases, it is acceptable to withhold PEP for up to 48 hours while awaiting results of rabies testing of the animal. An individual who has been bitten on the head or shoulders by a high risk animal should be treated without awaiting the results of rabies testing.